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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/699,614	10/30/2000	William Silver	C00-057	7066
23459	7590	10/30/2003	EXAMINER	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			LE, BRIAN Q	
		ART UNIT		PAPER NUMBER
		2623		
DATE MAILED: 10/30/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/699,614	SILVER, WILLIAM	
	Examiner Brian Q Le	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on \_\_\_\_.  
 2a) This action is FINAL.                  2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 2-18 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_ is/are allowed.  
 6) Claim(s) 2-18 is/are rejected.  
 7) Claim(s) \_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 11) The proposed drawing correction filed on \_\_\_\_ is: a) approved b) disapproved by the Examiner.  
     If approved, corrected drawings are required in reply to this Office action.  
 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
     1. Certified copies of the priority documents have been received.  
     2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
     3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
     \* See the attached detailed Office action for a list of the certified copies not received.  
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
     a) The translation of the foreign language provisional application has been received.  
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ .
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .	6) <input type="checkbox"/> Other: _____

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*Drawings*

1. This application, filed under former 37 CFR 1.60, lacks formal drawings. The informal drawings filed in this application are acceptable for examination purpose. When the application is allowed, applicant will be required to submit new formal drawings on separate sheet, starting from page 1.

*Specification Objection*

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Definition or further explanation of ‘non-zero spiral’ is needed.

*Claim Objections*

3. Claim 15 is objected to because these claims are very difficult to understand due to the use of confusing language. The term “non-zero spiral” is not quite clear to one skilled in the art. Appropriate correction is required. The prior art rejection based on the Examiner’s best understanding.

*Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 2-5, and 8-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Michael U.S. Patent No. 6,137,893.

Regarding claim 2, Michael teaches a method of locating an object (Abstract, last 4 lines) comprising:

Rendering a target on the object (image generation) (FIG 4, element 106), the target characterized by a fan shape (FIG. 1B-1D);

The target having a plurality of blades (FIG. 1B-1D);

At least one blade of the plurality of blades being different from another blade in the plurality of blades (FIG. 1C); and

Searching for the target so as to provide a pose (location/position/orientation) of the object (Abstract, last 2 lines).

For claim 3, Michael also teaches the method wherein at least one blade of the plurality of blades having a width different from the width of at least one other blade in the plurality of blades (FIG. 1C).

Regarding claim 4, Michael further teaches the method further comprising at least one blade of the plurality of blades having a width different from the width of all other blades in the plurality of the blades (FIG. 1C)

Referring to claim 5, Michael continues the teaching of the method wherein each of the plurality of blades having a width different from the width of all other blades in the plurality of blades (FIG. 1C).

Regarding claim 8, Michael teaches a method locating an object (Abstract, last 4 lines) comprising:

Rendering a target on the object (image generation) (FIG 4, element 106), the target characterized by a fan shape (FIG. 1B-1D);

The target having a plurality of blades separated by a like number of gaps to provide a plurality of gaps (FIG. 1B-1D);

At least one of the plurality of gaps having a width different from the width of at least one other gap in the plurality of gaps (FIG. 1C); and

Searching on the target so as to provide a pose (location/position/orientation) of the object (Abstract, last 2 lines).

Regarding claim 9, Michael further teaches the method wherein at least one of the plurality of gaps having a width different from the width of all other gaps in the plurality of gaps (FIG. 1C).

For claim 10, Michael also teaches the method wherein each of the plurality of gaps having a width different from the width of all other gaps in the plurality of gaps (FIG. 1C).

For claim 11, please refer back to claim 1 for further explanation.

Regarding claim 12, Michael teaches the method further comprising the skew of the at least one of the plurality of blades is different from a skew of at least one other blade in the plurality of blades (FIG. 1C).

Regarding claim 13, Michael teaches the method further comprising the skew of the at least one of the plurality of blades being different from a skew of all the other blades in the plurality of blades (FIG. 1C).

Regarding claim 14, Michael teaches the method wherein each of the plurality of blades having a skew different from the skew of all other blades in the plurality of blades (FIG. 1C).

Regarding claim 15, please refer to claim 1 for the explanation. In addition, Michael teaches a method wherein at least one of the plurality of blades having a non-zero spiral (FIG. 1C).

For claim 16, Michael also discloses the method comprising the spiral (pattern) of the at least one of the plurality of blades being different from a spiral of at least one other blade in the plurality of blades (FIG. 1C).

Regarding claim 17, Michael teaches the method further comprising the spiral of the at least one blade in the plurality of blades being different from the spiral of all other blades in the plurality of blades (FIG. 1C).

For claim 18, Michael further teaches the method wherein each of the plurality of blades having a spiral different from the spiral of all other blades in the plurality of blades (FIG. 1C).

#### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michael U.S. Patent No. 6,137,893 and further in view of McCarthy U.S. Patent No. 5,125,035.

Regarding to claim 6, please refer back to claim 1 for the explanation. Michael does not disclose a concept of a blade with a hole. McCarthy teaches a system to target object (abstract) comprises a blade target with hole (column 2, lines 8-41). Modifying Michael's method of locating object according to McCarthy would able to allow blade with hole so the image's

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centroid position can be determined and corrected (column 2, lines 35-42). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Michael according to McCarthy.

Regarding claim 7, McCarthy further discloses the method wherein each of the plurality of blades includes at least one hole (turbine engine blades all have holes to cool all the blades off) (column 2, lines 7-11).

### *CONCLUSION*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to object targeting/locating with regard to fan shape, blade, and blade's gap in general:

U.S. Pat. No. 6,341,013 to Battiti, teaches a method and device for regulating the attitude of a motor vehicle.

U.S. Pat. No. 5,835,641 to Sotoda, teaches an image pick-up apparatus for detecting and enlarging registered objects.

U.S. Pat. No. 5,845,008 to Katoh, teaches an image processing device and method for identifying an input image.

U.S. Pat. No. 5,978,511 to Horiuchi, teaches a method of inputting and outputting color pictures.

U.S. Pat. No. 5,341,435 to Battiti, teaches a system for detection and recognition of an object by video imaging means.

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U.S. Pub. No. 2003/0152272 to Venable, teaches method detects overlapping images in an automatic image segmentation device with the presence of severe bleeding.

J.P. Pat. No. 405,272,946 to Yamamoto, teaches object discriminating apparatus.

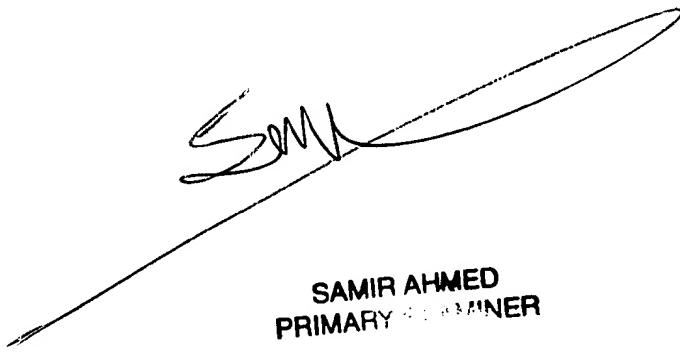
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC Customer Service whose telephone number is 703-306-0377.

BL

October 23, 2003



SAMIR AHMED  
PRIMARY EXAMINER